

DETAILED ACTION

Examiner's Amendment

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with William J. Tucker, Reg. No. 41,356 on August 1, 2011.

Claims 33, 37, 53, 57 and 58 are amended as follows:

For claim 33, this claim has been amended to include the limitations from claim 38. The updated claim 33 is:

"33. A method implemented by a network node for controlling a queue buffer, the queue buffer being connected to a link and being arranged to queue data units of a flow in a queue, comprising the steps of:

determining a value of a length parameter related to the length of the queue;

comparing the value with a length threshold value;

performing a congestion notification procedure if the value is greater than the length threshold value, wherein the congestion notification procedure when performed drops or marks one or more data units;

performing an automatic threshold adaptation procedure, wherein the automatic threshold adaptation procedure comprises a procedure for adjusting the length threshold value on the basis of one or more flow control parameters, wherein the automatic threshold adaptation procedure determines when the congestion notification procedure would be performed to drop or mark one or more of the data units; and

determining, in a procedure, one or more of the one or more flow control parameters from a flow control parameter introduced by one of a sender and a receiver of the flow queued in the queue;

introducing the flow control parameter by the receiver and inserting it into data units sent from the receiver to the sender; and

wherein the buffer is provided in a network node of a communication network connecting the sender and the receiver, further comprising the step of extracting, in a procedure for determining the flow control parameter, the flow control parameter from the data units at the network node."

For claim 37, the updated claim is:

"37. The method of claim 35, wherein the data units sent from the receiver to the sender are acknowledgment data units so as to acknowledge the correct receipt of data units."

For claim 53, this claim has been amended to include the limitations from claim 57. The updated claim is:

"53. A network node including a queue buffer controller for controlling a queue buffer coupled to a link and arranged to queue data units of a flow in a queue, comprising:

a queue length determinator for determining a value of a length parameter related to the length of the queue, a comparator for comparing the value with a length threshold value;

a congestion notifier for performing a congestion notification procedure if the value is greater than the length threshold value, wherein the congestion notification procedure when performed drops or marks one or more data units;

a threshold adaptor for automatically adapting the length threshold value, wherein the threshold adaptor is arranged for adjusting the length threshold value on the basis of one or more flow control parameters, wherein the automatic threshold adaptation procedure determines when the congestion notification procedure would be performed to drop or mark one or more of the data units; and

a flow control parameter determinator for determining one or more of the one or more flow control parameters from a flow control parameter introduced by one of a sender and a receiver of the flow queued in the queue;

the flow control parameter being introduced by the receiver and inserted into data units sent from the receiver to the sender; and

the queue buffer being provided in a network node of a communication network connecting the sender and the receiver, wherein the flow control parameter determinator is arranged for extracting the flow control parameter from the data units at the network node.”

For claim 57, the updated claim is:

“57. The network node of claim 53, wherein the data units sent from the receiver to the sender are acknowledgment data units so as to acknowledge the correct receipt of data units.”

For claim 58, the updated claim is:

“58. The network node of claim 57, wherein the flow control parameter is introduced by the receiver and inserted into acknowledgment data units sent from the receiver to the sender for acknowledging the correct receipt of data units, and wherein the queue buffer is provided in a first network node of a communication network connecting the sender and the receiver, wherein the flow control parameter determinator is arranged for receiving the flow control parameter from a second network node at which the flow control parameter was extracted.”

Claims 35, 38, 40-42, 45-51 and 59-64 are cancelled.

Allowable Subject Matter

2. Claims 33, 34, 37, 39, 43, 44, 52-55 and 58 are allowed.

Regarding claims 33, 34, 37, 39, 43, 44 and 52, the prior art, in single or in combination, fails to teach "A method implemented by a network node for controlling a queue buffer, the queue buffer being connected to a link and being arranged to queue data units of a flow in a queue, comprising the steps of: determining a value of a length parameter related to the length of the queue; comparing the value with a length threshold value; performing a congestion notification procedure if the value is greater than the length threshold value, wherein the congestion notification procedure when performed drops or marks one or more data units; performing an automatic threshold adaptation procedure, wherein the automatic threshold adaptation procedure comprises a procedure for adjusting the length threshold value on the basis of one or more flow control parameters, wherein the automatic threshold adaptation procedure determines when the congestion notification procedure would be performed to drop or mark one or more of the data units; and determining, in a procedure, one or more of the one or more flow control parameters from a flow control parameter introduced by one of a sender and a receiver of the flow queued in the queue; introducing the flow control parameter by the receiver and inserting it into data units sent from the receiver to the sender; and wherein the buffer is provided in a network node of a communication network connecting the sender and the receiver, further comprising the step of extracting, in a procedure for determining the flow control parameter, the flow control parameter from the data units at the network node" in combination with other limitation of the claim(s).

Regarding claims 53-55 and 58, the prior art, in single or in combination, fails to teach "A network node including a queue buffer controller for controlling a queue buffer coupled to a link and arranged to queue data units of a flow in a queue, comprising: a queue length determinator for determining a value of a length parameter related to the length of the queue, a comparator for comparing the value with a length threshold value; a congestion notifier for performing a congestion notification procedure if the value is greater than the length threshold value, wherein the congestion notification procedure when performed drops or marks one or more data units; a threshold adaptor for automatically adapting the length threshold value, wherein the threshold adaptor is arranged for adjusting the length threshold value on the basis of one or more flow control parameters, wherein the automatic threshold adaptation procedure determines when the congestion notification procedure would be performed to drop or mark one or more of the data units; and a flow control parameter determinator for determining one or more of the one or more flow control parameters from a flow control parameter introduced by one of a sender and a receiver of the flow queued in the queue; the flow control parameter being introduced by the receiver and inserted into data units sent from the receiver to the sender; and the queue buffer being provided in a network node of a communication network connecting the sender and the receiver, wherein the flow control parameter determinator is arranged for extracting the flow control parameter from the data units at the network node" in combination with other limitation of the claim(s).

Conclusion

3. Any inquiry concerning this communication or earlier communications from the examiner should be directed to WEI ZHAO whose telephone number is (571)270-5672. The examiner can normally be reached on Monday-Friday, 8:00am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dang Ton can be reached on 571-272-3171. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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